Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Broadband Industry Practice	)	WC Docket No. 07-52

COMMENTS OF EMBARQ CORPORATION

ON THE

NOTICE OF INQUIRY

David Bartlett
Jeff Lanning
Embarq
701 Pennsylvania Ave, NW, Suite 820
Washington, DC 20004

David Zesiger
Linda K. Gardner
Embarq
5454 W. 110th Street
Overland Park, KS 66211

TABLE OF CONTENTS

TABLE OF CONTENTS....1

EXECUTIVE SUMMARY....2

COMMENTS OF EMBARQ CORPORATION ON THE NOTICE OF INQUIRY....3

I. INTERNET REGULATION WOULD IGNORE THE REALITIES OF THE INTERNET AND WILL HARM CONSUMERS....4

II. INTERNET REGULATION WILL RETARD INVESTMENT AND BROADBAND SUBSCRIPTION....9

III. CONSUMERS ARE ALREADY PROTECTED BY THE COMMISSION'S PRINCIPLES....13

IV. CONCLUSION....14

EXECUTIVE SUMMARY

The current debate about "net neutrality" or, more precisely, "Internet regulation," is largely a solution in search of a problem. There is no specific, credible evidence that the type of prioritization under discussion results in broadband operators unfairly blocking broadband access, degrading traffic, exercising market power in the broadband market place, or harming consumers. To the contrary, there is every reason to conclude that new rules and regulations aimed at this "net neutrality" will in fact cause market interference, remove customer choices, and squelch broadband investment—particularly in the rural areas.

Customers are increasingly using services that require greater bandwidth and applications that demand prioritization in order to meet quality of service expectations. Significant investment in the broadband infrastructure is required to meet this demand and there is no rationale reason why upstream providers that benefit and use the network should be shielded from the costs in favor of recovery of the burden from the end user customers and network owners. Instead, network owners must be allowed to innovate and offer service differentiations in order to attract and retain customers—end user retail customers and upstream providers alike. To do otherwise discourages broadband investment and disproportionately burdens rural, high cost areas.

Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, DC 20554

In the Matter of	)	
	)	
Broadband Industry Practice	)	WC Docket No. 07-52

COMMENTS OF EMBARQ CORPORATION ON THE NOTICE OF INQUIRY

Embarq Corporation (Embarq), on behalf of its local operating companies and interexchange and wireless operations, offers the following initial comments in response to the Notice of Inquiry seeking information on the nature of the market for broadband and related services.[1] In essence, the NOI inquires as to specific practices or behaviors of broadband market participants in order to determine whether the Federal Communications Commission (FCC or Commission) should amend its Broadband Policy Statement in light of the current debate about "net neutrality" or, more precisely, "Internet regulation." The answer is a resounding NO. There is no specific, credible evidence that the type of prioritization that the Commission seeks comment on results, or would result, in broadband operators unfairly blocking broadband access, degrading traffic, exercising market power in the broadband

---

[1] See *In re: Broadband Industry Practices*, Notice of Inquiry, WC Docket No. 07-52, rel. April 16, 2007 (NOI).

market place, or harming consumers.[2] Instead, any consumer harm will come from new rules and regulations that will cause market interference, remove customer choices, and squelch investment, all in the name of "net neutrality."

I. INTERNET REGULATION WOULD IGNORE THE REALITIES OF THE INTERNET AND WILL HARM CONSUMERS.

The Internet is not static but constantly changing with more and more uses gaining widespread support. No longer is it used solely for delay-tolerant applications such as web-surfing or e-mail, but it is now used for more bandwidth intensive, delay-intolerant applications such as downloading movies, gaming, live video, video conferencing and providing voice services. As such, consumers will expect (even demand) that network traffic will be prioritized and managed in such a way as to deliver the quality that these services and applications require. Thus, continued broadband investment will be critical and allowing network owners to efficiently allocate capacity only makes sense.

However, Internet regulation proponents believe that the government should intervene in the broadband market by imposing certain duties or limitations on network providers in order to "save the Internet" as we know it by prohibiting such things as surcharges for prioritization or quality of service, or anything that affects a person's access to content. The underlying assumption is that any management of

---

[2]Concerns of blocking, degrading or consumer harm are largely a solution in search of a problem. The Commission tacitly recognizes this lack of evidence as it calls for specific, verifiable examples with supporting documentation of practices that are viewed as reasonable or unreasonable and examples of practices that are in fact technically feasible today and not mere hypothetical. *NOI*, para. 8.

traffic, without regard to rationale or allocative efficiency, should be prohibited. This simplistic view is rightly rejected and the Commission is correct in posing not only the question of whether providers treat packets differently today but also the question of whether packet management practices are helpful or harmful to consumers.[3]

Embarq, like many other companies, owns a network that delivers Internet service and facilitates the use of many applications. Embarq's network required and continues to require substantial capital investment to maintain, to upgrade and to extend the network to customers it serves. In addition, Embarq incurs considerable additional expense to operate the network. In an increasingly competitive marketplace, it is network owners such as Embarq that bear the risk associated with owning such an asset. Accordingly, network owners want to ensure the network is utilized efficiently and that it creates value for its customers and shareholders. Both of these desires provide a strong incentive for network owners to refrain from imposing restrictions that unnecessarily burden the customer experience and cause the customer to go elsewhere. The fact that there is a balancing between what may make sense from a network perspective and what may be acceptable or unacceptable conditions from a customer perspective should not automatically lead to the conclusion that the best course is to prohibit or mandate specific action. As one commentator notes:

---

[3] *NOI*, para. 8.

> . . . it is perfectly sensible for a network owner to impose use restrictions or differential pricing schemes on its broadband customers. Network owners may want to discourage the use of certain devices on their networks to avoid system crashes, interference, or "signal theft." They may want to price services differently to avoid network congestion or capture greater revenue on bandwidth-intensive service. They may want to vertically integrate content and conduit on their systems, or partner with other firms that can help them reach new customers and offer superior services. And there might exist scenarios in which blocking access to certain sites makes sense for network operators. . . . Consumers will consider some restrictions, such as prohibition on the release of viruses on a broadband network, trivial and entirely acceptable.[4]

Prioritization and blocking are done for many beneficial reasons today: network security or integrity, efficient traffic flows particularly during times of congestion, and bandwidth conservation to name a few. For example, Embarq uses spam filters on e-mail systems to block certain e-mail traffic to more efficiently flow traffic but also to meet customer demand for less unsolicited, and often offensive, e-mail. Phishing is also a common customer complaint and Embarq is trialing a product that will alert and potentially block access to these fake internet sites. In addition, routine operations prevent non-Embarq customers from using network resources provided exclusively for Embarq customers, thereby blocking non-customers from network access. All of these are examples of rationale business and customer decisions that could be prohibited under the inaccurate label of "discrimination."

Prioritization is an accepted aspect of commerce on the internet today and more than one commentator notes the irony of some proponents of "net neutrality"

---

[4] Adam Thierer, "'Net Neutrality' Digital Discrimination or Regulatory Gamesmanship in Cyberspace?" *Policy Analysis,* No. 507 (January 12, 2004), pgs 2-3. ("*Digital Discrimination*")

that offer priority services themselves yet advocate against it in this debate. As Peter Huber notes:

> The network that's lighting your screen today isn't neutral at all. Google, Amazon, Citicorp—all pay a privately negotiated price for better connections from their huge banks of servers to the in Internet. What they get are fast connections from their premises—and for just their content -to one of the several dozen 'network access points' that channel data into the Internet's sprawling, ultrahigh-speed backbone. Then they buy still more speed—for their content and no one else's—from companies like Akamai. Akamai provides neutrality-busting service. . . . If Google signs up with Akamai and Yahoo doesn't, Google's answer lights up your screen quite a lot faster. And Google sees to it that the very first thing delivered to your screen is a pitch for the company that paid Google to pay for the better-than -neutral access to your eyeballs.[5]

Adzilla allows optimized advertisements on a web page, in part, by displaying ads from partners imperceptibly faster than non-partners. ATM service has been offered at different priority levels of service by Embarq for over 10 years and voice traffic is prioritized over data traffic when it shares ATM transport. Today wholesale customers of many carriers can choose to pay for a higher level, SLA-based Ethernet transport service designed to meet their specific needs, or may choose a "best effort" Ethernet transport service. Therefore, the distinction exists today in price and associated Quality of Service (QoS), and customers choose the service that most suits their needs. In the event that a carrier purchasing a "best-effort" service determines

---

[5] Peter Huber, "The ineqalitarian Web" *Forbes,* February 12, 2007. See also, James Gattuso, "Broadband Regulation: Will Congress Neuter the Net?" The Heritage Foundation *Backgrounder,* June 2, 2006, pg. 6. (*"Broadband Regulation")*(Citing the fact that, as of 2006, Internet firms such as AOL or Yahoo! offered businesses the ability to route their e-mails directly to user's mailboxes without passing through junk e-mail filters for a fee.)

that the service is not acceptable for a given application, the carrier can upgrade to a dedicated, SLA-based service.

Interestingly, companies such as Google, Amazon and Citicorp enjoy access on internet provider networks in a manner similar to the wholesale customers that purchase "best-effort" Ethernet services. Google and other companies essentially enjoy the equivalent of "best-effort" access to Embarq and other internet provider customers at no cost. Embarq and other similarly situated carriers should be allowed to offer an SLA-based, prioritized access service to Google and others—an analogous service to that offered today for transport services. If an access offering is deemed unsatisfactory, end user customers can switch providers. If customers such as Google and Yahoo are dissatisfied, they have multiple internet access options from which end users can be accessed: traditional wireline DSL, satellite broadband, wireless access (via handset or PC) and cable broadband. It makes little sense to restrict the terms of this relationship as is done by the Internet regulation proponents.

Customers are accustomed to having delivery choices that best meet their needs. For example, customers have a choice of delivery methods—i.e., delivery prioritizations—when purchasing from internet storefronts. It is commonly accepted that one can pay a lower price for standard shipping with a longer delivery time and a higher price for expedited or overnight delivery. Yet similar delivery prioritization for downloading a video for example would be prohibited under some proposed Internet regulation rules.

Prioritization could lead to innovation and greater consumer satisfaction. Network operators may differentiate based on application or security needs:

> A network might be optimized for conventional e-mail or Web site browsing. One might focus on security features to appeal to business users. Yet another could employ prioritization techniques benefiting time-sensitive applications such as Internet-based telephone service. Such differentiation would mean that '[t]he network with the largest number of customers need not enjoy a decisive price advantage. Instead, each could survive by targeting and satisfying those consumers who place the highest value on the types of service they offer.'[6]

Networks optimized to offer packet prioritization for Internet-based telephone service or "bursting" to maximize throughput of the DSLAM for limited durations or limited applications such as downloading movies or for gaming are clearly but two examples of innovations that should be allowed to develop free of restraint.

II. INTERNET REGULATION WILL RETARD INVESTMENT AND BROADBAND SUBSCRIPTION

The NOI seeks comments on today's pricing practices for broadband and related services.[7] Embarq offers broadband services today at readily available prices. While knowledge of current pricing practices is useful, information about current prices will quickly become obsolete if network owners are not allowed to innovate

---

[6] *Broadband Regulation,* pg. 9, citing Christopher Yoo, "The Economics of Net Neutrality: Why the Physical Layer of the Internet Should Not Be Regulated," Progress and Freedom Foundation *Progress on Point* Release 11.11, July 2004, pg. 25.

[7] *NOI,* para. 9.

and to offer and to charge end users, content providers, and other users of the network for the variety of services and quality of service options desired.[8]

There is no debate that increasing demand for broadband services and higher bandwidth requires significant investment in the broadband infrastructure. Some studies show that increasing bandwidth alone without allowing for increased intelligence in the network could increase the per-subscriber cost of providing service by $300 to $400 per month, assuming high bandwidth application popularity continues to grow.[9] Because the demand for broadband services is elastic, broadband penetration will be significantly eroded if end user prices for broadband services are the only means of recovering these increased costs.[10] To prevent this, network owners need the freedom to build the network in the most efficient manner, to manage the network effectively, and the flexibility to gain cost recovery from all users of their facilities and not just end users.

---

8 Quality of service metrics for an IP network could include maximum last-mile bandwidth, latency, jitter, packet reordering, throughput, and packet loss. The degree of performance needed in each of these categories varies by application. See Foundation for Rural Service, "Net Neutrality: Neutralizing the Neutrality," pgs. 7-9.

9 See George Ford, Thomas Koutsky, Lawrence Spiwak, "The Efficiency Risk of Network Neutrality Rules," *Phoenix Center Policy Bulletin No. 16,* May 2006, pg. 3. ("*Efficiency Risk*")

10 ". . . [S]everal studies have shown that American consumers are very sensitive to price for broadband services. As a result, actions that would increase the cost of these networks could have a significant effect on broadband penetration. . . . we review publicly available engineering and financial models, and these models show that a government policy to mandate 'stupid' networks could increase the cost of providing broadband services to households by hundreds of dollars per month." *Id.*, pg. 10.

There is no rationale reason why upstream providers that benefit from and use the network should not share in the cost of the network. To mandate otherwise leaves this entire burden on network owners and end users—at future prices that will not be sustainable, at least not sustainable for most Americans, regardless of how affordable the price is today. It is unreasonable to expect any business to invest in a network with little or no expectation that customers will pay for it. Instead, network owners should be allowed the flexibility to innovate—to meet varying customer needs through offers that prioritize services or provide quality-of-service standards that not every customer and every application needs or wants. As one commentator acknowledges:

> Bottom line: there is no free lunch. BSPs [broadband service providers] need to find a way not only to pay off their investments and investors but also to generate the revenues necessary to invest in next-general broadband networks and technologies. In pursuit of that goal, they may experiment with a wide range of network access schemes and pricing methodologies that might be forbidden or discouraged if a Net neutrality rule were on the books.[11]

Proponents of Internet regulation often advocate that the government—not markets or investors-- mandate a "stupid" network. This "one-size-fits-all" approach, where information passes without regard to the nature or importance of the information, requires network owners to continually expand the capacity of the network until the addition of more and more bandwidth eliminates congestion. On

---

11 *Digital Discrimination, pgs. 12-13.* Competition will protect upstream providers from excessive charges. Customers will only agree to pay charges that they deem reasonable for the value received. If they perceive that the charge is greater than the value, they will not use the network and will look for a competing broadband provider.

the other hand, a "smart" network allows the owner of the network to deploy "intelligence" in the network that can more efficiently move traffic. Network designers and manufacturers are increasingly developing and deploying devices that allow traffic engineering methods to manage network congestion rather than simple reliance on increasing bandwidth and switching nodes speeds alone.[12] Yet, if network owners are restricted by law or rule to only one means of addressing demand for additional services—i.e., expanding bandwidth alone—rather than deploying intelligence in the network that allows for quality of service prioritization where that is a more efficient solution, that legal rule has forced an inefficient network architecture on society.[13] In turn, imposing added cost on society.

Not only would Internet regulation lead to an inefficient network architecture and increased societal cost, one study concludes Internet regulation's cost-increasing or revenue-reducing mandates will materially impact broadband deployment generally and, in fact, disproportionately, in rural, high cost areas.[14] This study finds that Internet regulations burden high-cost markets by a factor of six, concluding that: "Increasing the costs of building or operating a broadband network by a regulatory mandate unquestionably will result in lower broadband network construction across the board. But our analysis shows that this decline in construction will not be evenly

---

[12] Id.

[13] *Efficiency Risk*, pg. 5.

[14] See George Ford, Thomas Koutsky, Lawrence Spiwak, "The Burden of Network Neutrality Mandates on Rural Broadband Deployment," *Phoenix Center Policy Paper No. 25*, July 2006 ("*Rural Deployment*").

spread across the country as a whole—in fact, deployment in high-cost areas will be harmed disproportionately by any such cost-increasing mandate."[15] This result is directly contrary to the clear federal priority to increase broadband deployment—particularly in rural areas—consequently, Internet regulation must be avoided.

III. CONSUMERS ARE ALREADY PROTECTED BY THE COMMISSION'S PRINCIPLES

As noted, there is no evidence that blocking, purposeful degrading of service or discrimination is, in fact occurring, let alone occurring at a frequency that requires new rules. Internet regulation would, therefore, impose substantial social costs in return for unsubstantiated and questionable societal benefits. Moreover, should any harm emerge along the lines feared by Internet regulation proponents, the Commission has more than adequate rules, procedures, and remedies available to deal with the situation. For example, when blocking did occur in an isolated dispute between a rural telecommunications company and an "over-the-top" VoIP provider, the Commission swiftly intervened and the blocking ended.[16] Furthermore, in an increasingly competitive marketplace, network owners, such as Embarq, have every

---

[15] *Id.*, pg. 18. According to one analysis "[c]onsumers, if affected at all, are always worse off if network neutrality regulation is imposed, and this is true whether considering prioritization or capacity investments." George Ford, "University of Florida Study Shows Only Winners form Network Neutrality Regulation to be Content Providers, Consumers Lose," *Phoenix Center Perspectives 07-01*, pg. 4.

[16] See, *In Re: Madison River Communications LLC,* 20 FCC Rcd 4295 (2005).

incentive to ensure customers have full access. If not—if network owners began blocking sites or engaging in discrimination-- customers will go elsewhere.[17]

IV. CONCLUSION

Further "net neutrality," or Internet regulatory rules will cause market interference, remove customer choices, and squelch broadband investment—particularly in the rural areas. Instead of further restrictions to address theoretical harms, network owners should be encouraged to be innovative in meeting customer demands and allowed to optimize its network and scarce resources in ways that best meet the increased demand for broadband services and greater bandwidth those customer demands require.

Respectfully submitted,

EMBARQ

By 

Linda K. Gardner
5454 W. 110th Street
Overland Park, KS 66211
(913) 345-6193
Linda.Gardner@Embarq.com

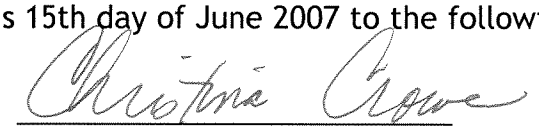
June 15, 2007

---

[17] "[Broadband] operators today by definition do not possess a 'bottleneck' monopoly over anything. No one has identified the products, services or markets from which foreclosure could take place, or identified either a systematic refusal of access or an economic incentive to refuse access." *Digital Discrimination*, pg. 14, citing Own and Rosston.

CERTIFICATE OF SERVICE

I hereby certify that a copy of Embarq Corporation's Comments in WC Docket 07-52 was delivered by electronic mail on this 15th day of June 2007 to the following.



ECFS

Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

VIA E-MAIL

Janice M. Myles
Competition Policy Division
Wireline Competition Bureau
Federal Communications Commission
445 12th Street, SW, Rm 5-C140
Washington, DC 20554
Janice.myles@fcc.gov

Best Copy and Printing Inc.
Portals II
445 12th Street, SW, Rm. CY-B402
Washington, DC 20554
fcc@bcpiweb.com